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# INDEX OF SIGNS AND SYMPTOMS

# OF

# INDUSTRIAL DISEASES

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# Preface

Historically, industrial intoxications have been defined by substance or cause in terms of signs and symptoms. Many classical texts on occupational disease and industrial toxicology approach the discussion of etiology from the standpoint of specific agents. The recent text by Key, *et al*,* describes conditions caused by exposure to over 300 chemical, physical, and biological agents. While this information is useful, a problem arises when a patient presents a group of signs and symptoms to a health professional with no knowledge of potential exposures in the occupational environment. It is in these situations that an index of signs and symptoms related to exposure can be useful. Such an index is comparable to texts of differential diagnosis for common infectious and idiopathic disease processes.

This is not a comprehensive index of all symptoms and their possible causes. Rather it is an Index to the NIOSH book, *Occupational Diseases: A Guide To Their Recognition*, by Key, *et al** relating signs and symptoms to the agents found in the occupational setting that are responsible for their onset. The index should inform occupational physicians, nurses, and industrial hygienists as to the relation between exposure and toxic manifestation. It has been prepared to serve as one tool, to aid in evaluating the cause of particular signs and symptoms and to simplify the diagnostic process. As identified, this index was developed by private resources and was given to NIOSH for use with *Occupational Diseases: A Guide to Their Recognition.* The relationships of signs and symptoms to occupational exposure that are indicated by the authors do not necessarily constitute the official position of NIOSH. The index, although limited by the scope of the NIOSH book, can stand alone as a source of information relating signs and symptoms to exposure.

Medical terminology used in this index was taken from *Taber's Cyclopedic Medical Dictionary*, edited by Clayton L. Thomas, M. D., M. P. H., 1973.

J. Daugaard, *Symptoms and Signs in Occupational Disease: A Practical Guide*. 1978, and E. R. Plunkett, *Occupational Diseases: A Syllabus of Signs and Symptoms*, 1977, may also be useful in relating signs and symptoms to occupational exposure.

*M. M. Key, *et al*, Eds., *Occupational Diseases: A Guide to Their Recognition*, USDHEW, PHS, CDC, NIOSH Publication No. 77-181, June 1977.

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**Key to Symbols**

* Finding from animal studies

\+ Reported but not confirmed

① From use as a therapeutic

② Sign or symptom is *associated* with agent

③ Increased risk


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Dioxane 169
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Ethyl alcohol 155
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Nitrobenzene 280
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Chlorinated naphthalenes 259
Chlorodiphenyls 256
Dimethylacetamide 302
Dinitrophenol 278
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Phosgene 430
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Iron pentacarbonyl 361
Mercaptans* 311
Methyl chloride 208
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Nitrobenzene 280
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Alicyclic hydrocarbons* 137
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Carbon tetrachloride 195
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Ethyleneimine* 295
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4,4-Methylenebis (2-chloroaniline) (MOCA)* 270
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β-Propiolactone* 303
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Dinitrobenzene 275
Dinitrotoluene 279
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Antimony 332
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Calcium cyanamide 229
Calcium oxide 415
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1,2-Dibromoethane 199
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Dichloroethyl ether 168
Dimethyl sulfate 309
Ethyleneimine 294
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Formaldehyde 189
Formates 178
Formic acid 182
Furfural 191
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n-Heptane 141
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Mercury, inorganic 371
Methyl bromide 206
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Nitrogen oxides 426
Oxalic acid 183
Ozone 429
Phosphorus 384
Propyl alcohol 159
Pyridine 300
Selenium 389
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Nickel* 377
paralysis:
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Tricresyl phosphates 305
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Tricresyl phosphates 305
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Allyl alcohol 151
Boron hydrides 343
Fluorine 320
Heat 500
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Ornithosis 53
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Barium 334
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Boron hydrides 343
Organophosphates 455
Oxygen (>2 atm) 505
weakness:
Amyl alcohol 152
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Heat 500
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1,3-Butadiene 139
1,2-Dichloroethylene 201
Ethylene glycol ethers 162
Ethyl ether 173
Gaseous nitrogen (>4 atm) 505
n-Heptane 141
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Isopropyl alcohol 159
Ketones 193
Methyl alcohol 158
Methylene chloride 209
Methyl formate 178
Nitroparaffins* 285
Propylene dichloride* 211
Styrene 242
Tetrachloroethane 212
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Beryllium 336
Oxalic acid 183
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Ammonia 413
Amyl alcohol 152
Antimony 332
Arsenic 327
Arsenite 461
Benzene 236
Bipyridyl 458
Boron 340
Boron hydrides 343
Bromine 315
Calcium cyanamide 230
Carbamates 456
Carbon monoxide 418
Carbon tetrachloride 195
Chlorinated hydrocarbons 457
Chlorine 318
Chlorodiphenyls 256
Copper 357
Copper salts 357
1,2-Dichloroethane 200
1,2-Dichloroethylene 202
Dichloroethyl ether 168
Dimethylformamide 293
Dinitrobenzene 275
Dinitrophenol 278
Dinitrotoluene 279
Dioxane 169
Diphenyl 239
Epichlorohydrin 170
Ethylene chlorohydrin 156
Ethylene glycol dinitrate 283
Ethylene glycol ethers 163
Ethyleneimine 295
Ethylene oxide 172
Fluorine 320
Food poisoning 59
Heat 500
Heptane 141
Hexane 142
Hydrazine 298
Hydrogen bromide 315
Hydrogen sulfide 423
Hypobaric environment 507
Inorganic lead 363
Ionizing radiation 471
Isocyanates 234
Kerosene 144
Ketones 193
Lead arsenate 461
Mercaptans 311
Methyl alcohol 158
Methyl bromide 206
Methyl chloride 208
Naphtha 145
Naphthalene 240
Nickel carbonyl 378
Nitrogen oxides 426
Nitroglycerin 283
Nitroparaffins 285
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Organophosphates 454
Organotin 400
Ornithosis 53
Oxygen (>2 atm) 505
Phosphine 381
Picric acid 287
Pyridine 301
Rabies 46
Stibine 390
Tetrachloroethane 213
Tetryl 289
Trichloroethylene 218
Tricresyl phosphates 305
Vinyl chloride 220
Xylene 245
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Picric acid 288
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Carbon dioxide+ 418
Carbon disulfide 307
Hydrogen sulfide 423
Hypobaric environment 507
Manganese 369
Thorium 398
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Arsenic 327
Carbon disulfide 307
Dinitrophenol 278
Tetrachloroethane 212
Thallium 396
Thallium sulfate 459
Trinitrotoluene 290
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Diphenyl 239
n-Hexane 142
Methyl n-butyl ketone 193
Trichloroethylene 218
degeneration:
Carbon disulfide 307
neuritis:
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Lead arsenate 461
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Carbon disulfide 307
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Bromine 315
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Chlorinated
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Phenol 251
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Aluminum 324
Antimony 332
Arsenic 326
Chlorinated lime 317
Styrene 242
lesions:
Candidiasis 63
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Copper 357
Mercury, inorganic 371
Selenium 389
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Mercury, inorganic 371
sweet taste:
Zinc oxide 409
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Tongue:
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Bromine 315
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Furfural 191
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OSTEOSARCOMA:
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Dinitrophenol 278

OXYGEN DESATURATION:
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Arsenite 461
Arsine 330
Carbon monoxide 418
Coumarins 459
Heat 500
Hypobaric environment 507
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Calcium cyanamide 229
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Acetic anhydride 180
Dimethyl sulfate 309
Hydrogen sulfide 423
OCBM 231
Organic tin 400
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Acridine 292
Creosote 249
Furfural 191
Naphtha 145
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Graphite 420
Inorganic tin 400
Iron oxide 360
Silver 393
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PNEUMONITIS:
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Beryllium 336
Calcium cyanamide 230
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Gasoline 140
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Halogenated borons* 341
n-Heptane 141
Histoplasmosis 67
Hydrogen sulfide 423
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Mecury, inorganic 371
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Chlorinated naphthalenes 259
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Boron hydrides 343
Carbon disulfide 307
Phenol 252
melancholia:
Mercury, inorganic 371
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Tetraethyl lead 365
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Dimethylacetamide 302
Graphite 420
Hypobaric environment 507
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Methyl bromide 207
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Nitrogen oxides 427
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Cadmium* 347
Naphthalene 240
Tellurium* 394
increased sedimentation:
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Tetraethyl lead 365
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Carbon disulfide 307
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Paraffin 148
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Cadmiuim* 347
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Acetonitrile 227
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Bromine 315
Chlorine 318
Creosote 249
Gasoline 140
Hydrogen bromide 315
Osmium tetroxide 380
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failure:
Antimony 332
Hydrogen cyanide 232
Hydrogen sulfide 423
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Sulfuric acid 439
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Sulfur dioxide 437
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Diborane 343
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Diborane 343
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Acetonitrile 227
Arsenic 327
Cadmium 347
Chlorine 318
Coccidioidomycosis 65
Fluorine 320
Organophosphates 455
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Acetonitrile 226
Calcium cyanamide 230
Carbamates 456
Diborane 343
Dinitrophenol 278
Magnesium oxide 367
Nickel carbonyl 378
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Phosphine 381
Selenium 389
edema:
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Acetaldehyde 186
Acetic acid 179
Acrolein 188
Allyl alcohol* 151
Ammonia 413
Arsine 330
Benzene 236
Benzyl chloride 254
Beryllium 336
Bromine 315
n-Butylamine* 222
Cadmium 347
Calcium cyanamide 230
Chlorinated lime 317
Chlorine 318
CMME 166
Chromium 354
1,2-Dichloroethane 200
Dichloroethyl ether* 168
Dimethyl sulfate 309
Ethyl bromide 206
Ethylene glycol ethers 162
Ethyleneimine 295
Ethylene oxide 172
Fluorine 320
Formaldehyde 189
Gasoline 140
n-Heptane 141
Hydrazine* 298
Hydrogen bromide 315
Hydrogen chloride 323
Hydrogen peroxide 421
Hydrogen sulfide 423
Hypobaric environment 508
Iron pentacarbonyl 361
Isocyanates 234
Kerosene 144
Mercaptans 311
Methyl bromide 206
Methylene chloride 210
Nickel carbonyl 350
Nitrogen oxides 426
Ozone 429
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Phosphine 381
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Sulfuric acid 439
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Tetrachloroethane 213
Turpentine 149
Vanadium 406
Xylene 245
Zinc chloride 407
tracheobronchial:
Sulfuric acid 439
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Coccidioidomycosis 65
cancer:
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Chromium ③ 354
Ethyleneimine* 295
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Metal carbonyls* ② 350
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n-Nitrosodimethylamine* 299
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Bis(chloromethyl)ether 164
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Pneumoconiosis 116
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congestion:
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Cadmium 347
Chlorinated benzenes* 258
Chloroprene 197
Epichlorohydrin* 156
Ethanolamine* 224
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Ethyl silicate* 176
Fluorine 320
Kerosene 144
Thorium 398
degeneration:
Alicyclic hydrocarbons* 137
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